

Serial No.: 10/673,989  
Examiner: Bastianelli, John  
Art Unit: 3751

### **REMARKS**

Claims 1-21 and 42-45 remain in the application. By this amendment claim 41 has been canceled and claims 1, 2, 8, 11, 16, 21, and 42-44 have been amended. Claims 22-40 were previously withdrawn as being directed to a non-elected invention. By this amendment paragraphs 34, 38, and 39 of the specification have also been amended. The present application as originally filed supports these amendments. No new matter has been added.

### **Allowable Subject Matter**

The applicant gratefully acknowledges the indication that claims 2-7 and 10 will be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

In response, claim 2 has been amended into independent form to include all of the limitations of the base claim, claim 1. Claims 3-7 and 10 depend from claim 2. Applicant respectfully requests an indication of allowance of claims 2-7 and 10.

Claims 8, 11, 16, and 21 have each been amended to depend from claim 2. Claim 9 depends from claim 8, claims 12-15 depend from claim 11, and claims 17-20 depend from claim 16. Applicant respectfully requests an indication of allowance of claims 8, 9, and 11-20.

### **Examiner Notes**

The Examiner notes that it is unclear how there can be conductance (flow) where there is nor real flow anyway.

As discussed in paragraphs 34-39 of the specification, the slide plate 26 is laterally, or axially, movable from a second opened position inside the flow path 14 to a minimum

Serial No.: 10/673,989  
Examiner: Bastianelli, John  
Art Unit: 3751

controllable conductance position against the valve seat 24 of the outlet 20, as shown in FIG. 4, substantially preventing fluid flow through the outlet 20. In this *soft closed position* the plate 26 may or may not physically contact the valve seat 24 of the outlet 20, and there may be a small gap to allow conductance. The pendulum valve assembly 10 helps control the conductance between the process chamber and the vacuum pump by controlling the position of the slide plate 26 between the first opened position, located completely out of the flow path 14, the second opened position, located inside the flow path 14, as shown in FIG. 3, and the minimum controllable conductance position against the valve seat 24 of the outlet 20, as shown in FIG. 4. To completely seal the closed slide plate 26, the sealing ring 30 is forced against the slide plate 30, which is forced against the valve seat 24 to provide a *"hard" closed position*. The closed slide plate 26 is completely sealed by the seal ring 30, for example, during cleaning of the process chamber when semiconductor processing is not being conducted.

### Claim Rejections

#### 1. Anticipation

Claims 1, 8-9, and 41-43 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,401,915 to Kim. Claims 8-9 have been amended to depend from claim 2, which is allowable. Claim 41 has been canceled and claim 42-43 have been amended to depend from claim 1. Claim 1 has been amended to more clearly define the claimed invention. Applicant respectfully submits that claim 1 as amended is not anticipated, or made obvious, by Kim.

Claim 1 as amended recites a valve assembly including a valve seat surrounding an inlet of a flow channel, a slide plate in the flow channel, and a seal ring positioned between the valve seat and the slide plate. At least one of a surface of the slide plate facing the seal ring and a surface of the seal ring facing the slide plate includes at least one unobstructed passageway for

Serial No.: 10/673,989  
Examiner: Bastianelli, John  
Art Unit: 3751

increasing conductance between the slide plate and the seal ring prior to the seal ring contacting the slide plate.

Kim, in contrast, shows a valve assembly having a seal ring 19 wherein a surface 31 of the seal ring 19 facing a slide plate 17 includes an annular groove 33 filled with a resilient seal 32. Kim does not disclose or suggest unobstructed passageway for increasing conductance between the slide plate and the seal ring prior to the seal ring contacting the slide plate.

Applicant respectfully submits that claim 1, as amended, and claims 42-43 are patentable over Kim.

Claims 1, 8-9, 11-13, 21, 41, and 44 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,577,707 to Brida. Claims 8-9, 11-13, and 21 now depend from claim 2, which is allowable. Claim 41 has been canceled and claim 44 has been amended to depend from claim 1. Applicant respectfully submits that claim 1 as amended is not anticipated, or made obvious, by Brida.

Brida shows a valve assembly having a seal ring 11 wherein a surface 15 of the seal ring 11 facing a slide plate 9 includes an annular groove 13 filled with a resilient o-ring. Brida does not disclose or suggest unobstructed passageway for increasing conductance between the slide plate and the seal ring prior to the seal ring contacting the slide plate. Applicant respectfully submits that claim 1, as amended, and claim 44 are patentable over Brida.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 8-9, 11-13, 21, and 42-44 under 35 U.S.C. §102(b).

2. Obviousness

Claims 14-15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Brida in view of U.S. Patent No 6,409,149 to Maher, Jr., and Claim 45 has been rejected under

Serial No.: 10/673,989  
Examiner: Bastianelli, John  
Art Unit: 3751

35 U.S.C. §103(a) as being unpatentable over Brida. Claims 14-15 depend from claim 11 which has been amended to depend from amended claim 2, which has been indicated as allowable. Claim 45 depends from claim 44, which has been amended to depend from claim 1. As discussed above, claim 1 as amended is patentable over Brida. Claim 45 is, therefore, also patentable over Brida.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 14-15 and 45 under 35 U.S.C. §103(a).

3. Indefiniteness

Claims 16-20 have been rejected under 35 U.S.C. §112, 2nd paragraph because the fasteners are not disclosed in the drawings and it is not understood in the specification. In response, paragraph 38 of the specification has been amended to incorporate U.S. Patent Nos. 6,863,256, and 5,577,707 by reference. Both of these patents disclose suitable fasteners and arrangements for securing the seal ring to the fasteners<sup>1</sup>. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 16-20 under 35 U.S.C. §112, 2nd paragraph.

Objection to Specification

At page 10, line 6 of the specification (i.e., paragraph 39), "slide plate 30" has been changed to --slide plate 26--. Applicant respectfully requests reconsideration and withdrawal of the objection to the specification.

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<sup>1</sup> According to MPEP 608.01(p) an application for a patent when filed may incorporate "essential material" by reference to (1) a U.S. patent, (2) a U.S. patent application publication, or (3) a pending U.S. application. "Essential material" is defined as that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode (35 U.S.C. 112).

Serial No.: 10/673,989  
Examiner: Bastianelli, John  
Art Unit: 3751

**Objection to Drawings**

The drawings have been objected to because they do not show reference numeral 60 mentioned in the specification. In response, the specification (i.e., paragraph 39) has been amended to delete reference numeral 60. Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

**Election/Restriction Requirement**

Claims 22-40 have previously been withdrawn as being drawn to the non-elected Invention.

In view of the amendments and remarks submitted herein, applicant believes that all claims pending in the application are in condition for allowance and respectfully request such allowance. If a telephone conference will expedite prosecution of the application the Examiner is invited to telephone the undersigned.

Respectfully submitted,  
McDermott, Will & Emery



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\*\*\* ERROR TX REPORT \*\*\*  
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TX FUNCTION WAS NOT COMPLETED

TX/RX NO 2314  
CONNECTION TEL #8056231915712738300  
SUBADDRESS  
CONNECTION ID  
ST. TIME 05/17 18:12  
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RESULT NG #018 BUSY/NO SIGNAL

## McDermott Will & Emery

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**FACSIMILE**

Date: May 17, 2005

Time Sent:

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<b>Re:</b>	Application Serial No: 10/673,989		

**Message:**

In re Application of:	Paul D. Lucas and Anthony J. Carbone	Conf. No.: 2828
Serial No:	10/673,989	Examiner: Bastianelli, John
Filing Date:	September 29, 2003	Art Unit: 3751
Title:	<b>Valve Assembly Having Improved Conductance Control</b>	
Docket No:	56231-434 (MKS-135)	